

**REMARKS/ARGUMENTS**

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1 and 3-15 are presently pending in this application, Claims 6-12 having been withdrawn from further consideration by the Examiner, and Claims 1, 3 and 15 having been amended by the present amendment.

In the outstanding Office Action, Claim 1 was rejected under 35 U.S.C. §112, first paragraph, as containing subject matter not enabling to one skilled in the relevant art; Claims 1, 3-5 and 13-15 were rejected under 35 U.S.C. §112, second paragraph, for being indefinite; Claims 1 and 15 were rejected under 35 U.S.C. §102(b) as being anticipated by Machado et al. (U.S. Patent 4,711,758); Claims 3, 4 and 5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Machado et al.; Claim 14 was rejected under 35 U.S.C. §103(a) as being unpatentable over Machado et al. in view of Wells et al. (U.S. Patent 4,827,139); and Claim 13 was rejected under 35 U.S.C. §103(a) as being unpatentable over Machado et al. in view of the combination of Horning (U.S. Patent 3,036,964) and Mogard (U.S. Patent 4,004,972).

First, Applicants acknowledge with appreciation the courtesy of the personal interview granted to Applicants' attorney on November 10, 2003. During the interview, the outstanding issues are discussed and arguments in support of the claims' patentability were presented. Specifically, it was submitted during the interview that Machado et al. fail to teach a basket made of rectangular plate members alternately piled up so as to continuously extend vertically, i.e., without interval spaces in the vertical direction, a barrel main body having a unitary construction which has an inner cavity having a shape corresponding to an outer shape of the basket such that the inner cavity of the barrel main body makes direct contact with the outer shape of the basket along an entire vertical length of the inner cavity of the barrel main body, and also dummy pipes provided along and making direct contact with

the outer surface of each stepped corner of the basket. As a result of the discussions during the interview, the Examiner indicated that these features distinguish over the structure disclosed in Machado et al. and that amendments along those lines apparently overcome the outstanding rejections based on Machado et al. Accordingly, Claims 1, 3 and 15 have been amended to structurally recite the above subject matters therein, and remarks associated thereto are reiterated hereinafter.

Claims 1, 3 and 15 have been amended herein. These amendments find support on, for example, Figure 1 and 2 of Applicants' drawings. Hence, no new matter is believed to be added thereby.

With regard to the rejections under 35 U.S.C. §112, Claims 1, 3 and 15 have been amended to remove the noted claim languages and thus are believed to overcome these rejections. If, however, the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work in a joint effort to derive mutually satisfactory claim language.

Briefly recapitulating, Claim 1 of the present invention as currently amended is directed to a cask including a basket including a plurality of rectangular plate members having a neutron absorbency and alternately piled up so as to continuously extend vertically, the plurality of rectangular plate members each having a plurality of cutting sections for mutually engaging the plurality of rectangular plate members, the rectangular plate members forming a plurality of cells each configured to hold a spent fuel assembly, the basket having a cross section having a plurality of stepped corners, a barrel main body having a unitary construction which shields  $\gamma$  rays and has an inner cavity having a shape corresponding to an outer shape of the basket such that the inner cavity of the barrel main body makes direct contact with the outer shape of the basket along an entire vertical length of the inner cavity of the barrel main body, and a neutron shielding body provided in an outer periphery of the

barrel main body. By providing such a barrel main body, the number of cells to be inserted in the cask can be increased, while the mass of the barrel main body can be decreased without increasing the size of the cask. At the same time, the ability to shield  $\gamma$  ray and neutron is maintained. Furthermore, the heat conductivity between the basket and barrel main body is improved since the contacting area between the basket and the barrel main body is increased. In addition, the barrel main body is more compact, because unnecessary space within the cavity can be reduced,<sup>1</sup> and a stress is dispersed more uniformly, because the barrel main body can have more uniform thickness.<sup>2</sup>

Machado et al. disclose a cask having a basket with grid assemblies. Nevertheless, as discussed during the interview, Machado et al. teach neither “a basket including a plurality of rectangular plate members ... alternately piled up so as to continuously extend vertically,” nor “a barrel main body having a unitary construction which ... has an inner cavity having a shape corresponding to an outer shape of the basket such that the inner cavity of the barrel main body makes direct contact with the outer shape of the basket along an entire vertical length of the inner cavity of the barrel main body” as recited in amended Claim 1. Therefore, the structure recited in amended Claim 1 is believed to be clearly distinguishable from Machado et al.

Likewise, Horning and Mogard disclose a nuclear reactor apparatus and a nuclear fuel element, respectively, but are not believed to teach “a basket including a plurality of rectangular plate members ... alternately piled up so as to continuously extend vertically,” nor “a barrel main body having a unitary construction which ... has an inner cavity having a shape corresponding to an outer shape of the basket such that the inner cavity of the barrel main body makes direct contact with the outer shape of the basket along an entire vertical

---

<sup>1</sup> Specification, page 7, lines 2-4.

<sup>2</sup> Id., page 17, lines 10-11.

length of the inner cavity of the barrel main body” as recited in amended Claim 1. As discussed in the previous response, Horning discloses a nuclear reactor having a substantial space between the barrel main body and the cells composing the basket, i.e., the shape of the cavity does not correspond with the outer shape of the basket,<sup>3</sup> and Mogard simply discloses the cladding tube 1 for the nuclear fuel pellets 3. As such, the structure recited in Claim 1 is also believed to be distinguishable from Horning and Mogard.

Because none of Machado et al., Horning and Mogard discloses the basket or barrel main body as recited in Claim 1, even the combined teachings of these cited references are not believed to render the structure recited in Claim 1 obvious. Furthermore, because Claims 3 and 15 have been amended to include subject matter substantially similar to what is recited in Claim 1 to the extent of the above discussions, Claims 3 and 15 are believed to be distinguishable from Machado et al., Horning and Mogard.

For the foregoing reasons, Claims 1, 3 and 15 are believed to be allowable. Furthermore, since Claims 4-5 and 13-14 ultimately depend from Claim 1, substantially the same arguments set forth above also apply to these dependent claims. Hence, Claims 4-5 and 13-14 are believed to be allowable as well.

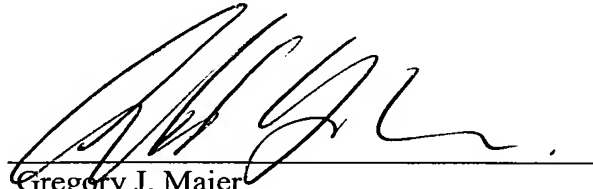
---

<sup>3</sup> See Horning, Figure 1.

In light of the discussions held during the interview and in view of the amendments and discussions presented above, Applicants respectfully submit that the present application is believed to be in condition for allowance, and an early action favorable to that effect is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.

A handwritten signature in black ink, appearing to read 'G. J. Maier', is written over a horizontal line.

Gregory J. Maier  
Attorney of Record  
Registration No. 25,599

Customer Number

**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 08/03)  
GJM/AY:fm  
I:\ATTY\AKY\21S\219973\AME 4.DOC

Akihiro Yamazaki  
Registration No. 46,155